

PERFORMANCE MANAGEMENT IN THE PUBLIC SECTOR: Development and implementation of process-oriented performance measurement system in French universities

*Guillaume Biot-Paquerot¹, Jean-Luc Rossignol
Professor / Senior lecturer
Groupe Sup de Co La Rochelle/ University of Franche-Comté
CEREGE (Poitiers, France) / CUREGE (Besançon, France)*

Abstract :

Education supply in universities of most European countries has for the last ten years become a strategic matter. At present, French universities consider education supply as an investment. But they do not utilize all incentive mechanisms in order to drive their strategies. At the beginning of the year 2006, the public sector reform will tend to impose performance measurements of research and educational activities, in order to improve organizational efficiency. The aim of this reform in the French context is to provide driving elements to increase internal efficiency, social and economic impact of higher education system and to reinforce international attractiveness of public education institutions. The substitution of resources management by result management involves an agent's performance responsibility measurement. Evaluation becomes a central factor and is articulated with incentives system. The weakening of the property right system drives project bearers to maximize their utility instead of their incomes. In such a context, the understanding of individual strategies permits to understand constraints of management within universities, and to take into account the impact of stakeholders who take part in the value generation process. The major risk is to constraint the utility function of projects bearers by increasing their burden and their motivation. The result could be the limitation of the number of projects, and as well, the decreasing of university investments.

Keywords: performance, public sector, universities, efficiency, value generation

¹ The author would like to thank the European Social Fund (ESF) for their kind financial support.

Introduction

During the last fifty years, the average study duration increased in most western countries, and particularly in France². This increase has become more important since the mid 80's. In 1996, more than 40% of the adult population of 21 years of age, and 20% of the 23 year olds, were students. To compare, in 1946 less than 5% of the 20-23 generation was studying in the higher education system (Estrade and Minni 1996). Nevertheless, the positive developments in the labor market and the competition between institutions of higher education, in particular between universities and private schools, have generated stagnation in the evolution of university registrations between 1996 and 2000.

Kletz and Pallez (2001, p.7) point out that the education supply process resembles an expanding spiral with several levels. The study of this expansion can be based on the education project emergence mode. The governance team of each university valorizes those projects beside the French Ministry of Education, but they are based on the motivation of individual academics. Every curriculum is associated with an academic, who is the legal representative after the respective dean. It allows him or her to delimit the borders of his competences. In the same way, it ensures him to carry out his statutory service of teaching duty (192 hours per year) partly or totally in this curriculum. Thus he finds there a full discretion to act in the organization. In parallel, the teachers' career is mainly based on research, and teaching can represent one of the means of developing the research tasks, mainly in masters or PhD programs (in 2000, 45% of the requests for the creation of new programs were for DESS-Masters). This individual logic can also be maintained by an intermediate level between the academic staff and university management, by research laboratories. They support in a certain number of cases the creation of degree courses in order to reinforce and to structure their team of research via new staff recruitment. Thus, they take an active part in the search of alternative financing complementing state financing, mostly calling upon local area networks (communities, companies). As universities fall from now on within the scope of the regional planning policies, laboratories represent an interesting interface for local authorities in order to develop a plan of significant curriculum offers. We can see different examples of those policies in new curriculum openings dealing with fishing industries in Bretagne, with wine in Burgundy or in Bordeaux, etc.

² The median studying duration value has doubled, from 7 to 14 years (INSEE, 1996). The last census showed that students represent 3.5 % of the French metropolitan population (INSEE 2001).

We will start our analysis with a discussion of the structure of property rights, showing how their distribution is particular concerning universities as non-profit organizations (NPO). Many problems of incentive and stakeholder management arise from both the form and nature of NPOs.

1. Universities: organizational truism

Standard economic theory considers the system of firm property rights as given. The property rights theory, however, allows justifying different organizational architectures resulting from agreements between the participants involved. The property rights system guarantees incentives for agents to creating and valorizing assets within organizations, as long as the system is properly defined. Further, internal resource use is closer to the optimum (Amann 1999). In that sense, the common definition of the transfer of property rights is quite general: any exchange of service, item or asset between individual or corporate entities.

The property rights are the aggregate rights permitting to decide on the use of an item, from its conception to its destruction. In such a view, the idea of an asset property is interpreted as a residual control claim. Furubotn and Pejovich (1972) go further by defining the basis of organizational efficiency as being dependent on the property rights system. Agents could get part of the property rights in order to act conforming to the property owner's stakes. In such a case, they become actual residual claimants bearing both risks and revenues tied to the property rights in question. Thus, the quality of the property rights system definition is the foundation of contractual relations within organizations. Following that idea, property rights need to be both exclusive and transferable to achieve efficiency (Furubotn and Pejovich, 1972). Exclusiveness is an absolute character of the right, enabling the owner to enjoy his property freely. Transferability corresponds to the right for the owner to yield his good. Further, the rights of any property can be partitioned, which represents one of the basics of incentives within organizations. Indeed, agents can be allotted a part of these property rights in order to behave according to the interests of the owners of these rights. Consequently, these agents must be counted among the residual claimants, since they bear at the same time the risks associated with the rights of ownership and the related income.

In the case of universities, a weakening of the property rights system can be observed because of legal constraints. The difficulty of results measuring and the multiplicity of the objectives have led to the state losing control for a long time, as control costs were too high.

The result was a tolerance of discretionary practices by civil servants. Because of the peculiarity of the education service (and moral hazard), the actors are able to transform the potential income into non-pecuniary consumption of goods (improvement of working conditions, equipment...). The State would then have to be considered as a fortunate investor investing in a great number of firms, without any capacity to control their management. In fact, management of the universities is largely in the hands of their employees (that is, the agents), and universities are autonomous to a very high degree. Because of non-transferability of their rights, we can foresee incentive and control problems related to this type of activity (Amann 1999), amplified by the non-profit character of universities.

1.1. Property structure influences and performance management within university

Standard economic theory is not appropriate to explain investment choices within universities, because of the latter's specific property structure. In "My fair Lady", Rex Harrison asked why "a woman can't be more like a man?". He thought that if it were the case, women would be easier to understand and to live with. Winston (1997) uses a similar metaphor to compare universities and firms. He assumes that as firms, universities would be less difficult to describe and easier to manage. Winston's (1997) first aim, however, is the identification of the fundamental dissimilarities between universities and firms, in order to use the classical firm theory to show how public organizations work. His analysis is based on Hansmann's study (1980). Universities are defined beginning with the constraint of non-distribution, according to which the NPO can make profits but cannot distribute them to those having a right to them. Indeed, these organizations do not have owners in the strict sense, and it is particularly difficult to identify residual claimants in such an environment. One can nevertheless observe that the university, as a perennial institution³, allowed the emergence of alternate mechanisms of control in order to solve the problems that can appear between stakeholders (Brown 1997).

But if that structure is not efficient, why is it that the university is organized in the form of collective decision institutions? In the American context, Fama and Jensen (1983a) find a response in the fact that many universities are financed by donations. In France,

³ The Sorbonne University was founded in 1257 in Paris. It got its name from the French theologian Robert de Sorbon (1201-1274), chaplain of King Louis IX (Saint Louis). The university (*universitas*) of Paris was born, under the aegis of the clergy at the beginning of the 12th century with the Lateran pacts. It was also in the beginning a school of theology and philosophy whose professors were remunerated by the students coming from many countries.

however, even though universities are entitled to receive this type of endowment, donations or legacies are not really common. Moreover, universities are not homogeneously organized. In many establishments, the major decisions are taken by representative councils, whereas they are taken by full-time administrators in other institutions. McCormick and Meiners' study (1988) shows a negative impact of administrative load on academic careers. Indeed, according to their findings, university teachers taking an active part in the management of their institution are those who both publish less and teach less. The Alchian-Demsetz scheme (1972), it is however particularly difficult to identify and to control the production process in this type of organization, in particular because of the intangible character of the service and its production process. In the same way, Coleman (1973) described academics as a group of semi-autonomous employees, with only limited attachment to their employer. In order to attract these individuals, universities do not only use the salary argument⁴, but also insist on working conditions, scientific accompaniment of research, discharges from teaching (careers being managed nearly exclusively on scientific criteria) in research centers (Clotfelter 1999).

Within universities, the partners, that are, the state, the communities and companies (especially via the payment of "training tax" - *taxe d'apprentissage*) find it very difficult to control the quality of the products provided. Donators, however, prefer giving to organizations, such as universities, whose statutes do not allow organizational surpluses distribution to their members, particularly because of the difficulty and the cost of control for this category of stakeholders (Weisbrod 1988, p.30). But the non-distribution constraint does not exclude risks of shirking and does not ensure that the funds are used as donators wishes. In the same way, contractual theories can also prove conceptually difficult. Economic analogies starting with the private firm model can be only of limited use for understanding the operation of higher education organizations (Winston, 1997). Agency costs are among the most important problems: managers are ready to invest most of the organization's resources for maximizing their own utility. Alchian (1987, p.187) writes on this subject that one of the methods that persons in charge of degree programs use for increasing their utility is to substitute maximization of their utility for maximization of their profit. This means for them "a quieter, more peaceful, even if less profitable life". He recognizes that the major difference between universities and other organizational forms consists of the impossibility of identifying the residual claimants.

⁴ In France, salaries are fixed by the ministry of education according to a grid of indexes, depending on the seniority in the rank.

The participation of academics in the decision-making process (management and investment) is necessary for calling upon their expertise, in particular in terms of curriculum design. But by turning teachers into actual residual claimants of universities, the state, as a true holder of property rights, allows them to control the decisions of the university management. These management decisions could have an impact on the career opportunities for academics (promotion to a higher rank), concerning with teaching arrangements and related administrative responsibilities. It is likely that the academics concerned would act as opportunists when investment decisions are taken. For Hansmann (1996, p.238), a NPO, headed by a board of directors exclusively composed from local academics, represents the highest degree of separation between property and control functions. The managers are able to act without any supervision by a group or individuals being interested in the use of the residual income. And one can then expect that in this case the costs of agency are the highest.

1.2. Decisional process dynamic within universities

The property rights theory, as we presented it in the first part of this article, seems to be an appropriate framework. In reference to the developments mentioned above, we will analyze the decision-making process on the basis of two closely dependent concepts, the residual decision rights on the one hand, and the control rights (management and control) on the other hand. According to the incomplete contracts theory, organizational forms can need to solve conflicts arising from contractual incompleteness. In this sense, Grossmann and Hart (1986) define property as a function of two principal characteristics: the allocation of residual decisional rights (the right to control), and the appropriation of residual incomes⁵. Thus, within an entrepreneurial organization, it is the owner who takes the residual decisions. The latter undergoes all the consequences of his/her decisions by bearing the residual risk (profits or losses). On the contrary, public organizations are characterized by a determining role of the public person (the state or local authorities), who bears at the same time the residual decisions and the residual risk resulting from this situation (Charreaux 1997). The universities can be placed in this last category. The allowed residual incomes can be quantified only in terms of utility differentials, and much more rarely in pecuniary terms. As the incentives for public managers are weak (non-distribution constraint), their discretionary

⁵ The appropriation of residual incomes (profit or loss) symbolizes the appropriation of the profits associated with the possession of the asset. This possession confers residual decision rights, whose attribution is not envisaged by the contract. This concept of profits or losses covers monetary profits as well as variations of utility (deterioration of quality of life, autonomy, working conditions etc.).

behavior is not apparent. In fact, the absence or weakness of control implies that leaders of public organizations have a more important liberty to decide, and the freedom to implement policies that enable them to enjoy higher rents (Charreaux 1997, p.5). According to the effectiveness principle, the organizational architecture supposedly contributes to the generation of maximum organizational value, and to leading to the minimization of agency costs and transaction costs. This situation would call for a weak separation between the control and decision functions.

Contrary to the capitalist firm, it is particularly tricky to identify the owners or the holders of residual claims within a university. And the market does not represent much of an actual control tool for a university's managers. One can observe, however, that the university as a perennial institution allowed the emergence of alternate mechanisms of control in order to solve the various problems that can arise between the stakeholders (Brown 1997) and allow the reduction of agency costs. The main difficulty coming from the non-distribution constraint resides in the agents' incentives, and principally for the agents taking part in investment decisions, such as creations of curricula, or in the management of an institution. These same managers (deans, academics in charge for a degree program, etc.) are ready to invest most of the organization's resources to maximize their own utility, in order to circumvent this constraint. In fact, academics must also be considered as being and seeking to maximize their well-being, by pursuing goals corresponding to the framework of their own utility function. For this purpose, they manage their spare time according to the utility they draw from their various opportunities: research, administration, leisure, and lastly, paid external activities, thus allowing them to increase their incomes (Charreaux 1995). A UNESCO study (1992) has highlighted teachers' de-motivation and its impact on the quality of their work. The study highlights a problem connected to the structure of the teaching body (primarily comprised of men⁶, with a high average age) and on the problem of the recognition of their status. As academics' career evolution is highly dependent on scientific recognition, they tend to devote their resources to the development of academically recognized activities, leading to promotion in their career. Within such a framework, they can be brought to develop their scientific career in comparison to their teaching or administrative duties, in particular because of the opportunity cost related to the distribution of their working time.

⁶ In 1998-99, 14% of tenured professors were women, 72% of tenured professors were less than 50 years old. (Ministry of Education, 2000)

What is more, they can negotiate time compensation for increased participation in the administrative management of their university or department.

In fact, the universities' property structure affects their organizational architecture⁷, defined as the combination of the system of distribution of these rights and the system of coordination and control. It is thus advisable to analyze the impact of the structure of property on each of these components. The various stakeholders, in the center of the decision-making process, provide resources necessary for investment. The recourse to the positive agency theory envisages the analysis of the mechanisms by which "the relations of the firm with its capital suppliers, or more generally the whole of the stakeholders, influence the strategy, the decision-making methods and the value generation and the value repartition" (Charreaux 1999, our own translation).

2. Toward a stakeholder approach of value generation and value distribution in French universities

Concerning higher education, McCormick and Meiners (1988) wondered about the effects of the various organizational forms on productivity, and consequently on value generation. The authors characterize this relationship by the alienability of ownership rights, or more precisely by the un-alienable nature of property rights on university cash flow, but also by the incentive system, and the project's time horizon. Hence, the decision horizons of relevant decision makers are limited, and the latter are not generally inclined to include the present value of all the costs and benefits in their projects. In this way, NPOs are directed towards positive net value projects, whereas one could have thought that the selection criteria would be more linked to concepts such as equity or social impact. In the same way, the decision-makers will invest in projects whose costs will be manifest only in the long term. The agency theory contributes to explain the fact that agents have their own agenda to pursue. Their agendas will not necessarily align with the principal's interests.

2.1 Stakeholder value and stakeholder performance within universities

We considered universities, like any other organization type, as an interaction spot between partners with differing interests. The positive agency theory (PAT) describes a co-

⁷ The organizational architecture theory is interested particularly in the allowance of decisional rights inside organizations and in the design of control systems governing the various partners (Charreaux 1999).

operative contractual system, based on the principle of efficiency and the remediability criterion⁸. Consequently, governance mechanisms result from a seeking of contract costs cutback, with each stakeholder trying to maximize their own utility. The PAT allows understanding the behavior of an organization as a function of stakeholders' behavior. And the investment choices can be regarded as the resultant of negotiation between them. Ex ante, contractual mechanisms make it possible to align the interests of various partners (under cognitive constraints and uncertainty), and the organizational architecture in place enables solving conflicts not foreseen by contract. As we considered in the above paragraph, Charreaux (1997) suggests a partnership approach of the modes of governance. He segregates them according to their degrees of intentionality and specificity. Governance, starting from a paradigm of forced efficiency, contributes to explain the process of value generation starting from the mechanisms centered on the CEO⁹. This approach then assumes potential conflicts between the different stakeholders, and helps to explain the development of governance mechanisms. Those mechanisms help to focus top-management's activities so as to decrease opportunist behaviors. Indeed, the different stakeholders are supposed to follow a human behavior model (the Resourceful, Evaluative, Maximizing Model - REMM¹⁰), each individual being supposed to seek to maximize his personal interest¹¹. They are thus supposed to maximize their utility (they are able to arrange their preferences and to consider on a hierarchical basis their desires); in such a sense, they are rational.

Like in other organizations, the utility function of university agents is not based on a single argument (maximization of their wealth). As the salary range cannot be fixed by the institutions themselves (academic staff are civil servants whose remuneration is not subject to individual negotiation), seeking of financial benefit cannot be retained as the single factor of satisfaction. Essentially, their utility function does not include exclusively pecuniary arguments. Among these arguments, one finds the concepts of academic autonomy and independence, in the exercise of their teaching activity and in the choice of their research

⁸ The principle of efficiency to which one can attach the concept of remediability is: an organization is supposed to be efficient if there is not any other possible alternative of obtaining net incomes (Williamson 1987).

⁹ "Corporate governance covers the organizational mechanisms which cause to delimit the capacities of the CEO, and to influence his decisions. In other words, mechanisms which drive and control his acts, and define his discretionary space" (Charreaux 1997a, our own translation)

¹⁰ Jensen and Meckling (1994) lay the foundation of an organizational theory which requires appropriate behavioral assumptions to be established. It is not a question of "modeling human behavior so as to explain behavior of particular individuals. in particular with respect to a modeling of preferences" (Charreaux 1999, our own translation).

¹¹ It would be wrong to see the maximizing behavior in a normative perspective, leading to a loss of utility for the other parties concerned. Altruistic behavior could constitute part of individuals' utility function who include in it in one way or another the well-being of others. It could even represent a potential source of utility.

fields (De Weert and Tijssen 1999, p.41). Moreover, this independence is affirmed within the framework of the law. Their function of utility includes many arguments including spare time, prestige related to the direction of a curriculum, social peace, leisure, better working conditions or safety (Amann 1999). “Each one of these actors, or group of actors, has their own objectives, aims, projects, strategy, ways to act, competences, which they mobilize in a given situation, compared to stakes related to competence, prestige, statute, identity or economic profit” (Paquet, 2002 p.156, our own translation). Each individual being rational will interact with the environment in which they evolve in order to maximize their utility function. It is assumed that individuals act according to a criterion of a desired utility. Following this, the utility surplus obtained by an individual might lead to a better understanding of investment choices. The principal difficulty lies in the eminently subjective character of the utility and the arguments of the function, which are not necessarily independent (i.e. an enlargement of discretionary space can be associated with a utility gain, coming from both material and nonmaterial elements). Obviously, the utility functions of the decision makers are modeled by many social and professional constraints. To misunderstand them would inevitably lead to an inappropriate characterization of these actors (Clark 1987).

Austin, in “The encyclopedia of higher education” (1992), outlines the main contextual elements that could influence an academic utility function. There is a strong need for academic recognition, because of a considerable impact of the discipline, adherence to an institution (school, department or university), with the recognition conferred by the national system for remuneration and research activity. Initially, the impact of the disciplinary culture can be measured by the processes of socialization of the participants entering the discipline, in particular by recruitment processes and the scientific origin of the contenders, sharing both analytical frameworks and scientific culture¹². This phenomenon is accentuated by the policy of certain universities preferring internal recruitments and strongly contributes to produce a true identity of academic bodies and disciplines. Clark (1987) identifies the discipline as the principal factor of the identification to the academic body.

Once these various behavioral constraints have been identified, it is then easier to understand why academic staff seeks to limit their effort (which can become synonymous with dis-utility). Thus, on the one hand, the additional efforts of the staff (and mainly of managers) increase the organization value, but on the other hand, they reduce their short-term

¹² “(They) enter different cultural houses, there to share beliefs about theory, methodology, techniques and problems” (Clark, 1983, p. 761). We can add to this sharing of jargon and values.

utility. This phenomenon is amplified by the constraints related to the system of property rights within universities. The agents, not being direct recipients of the monetary income created, might tend to prefer other sources of utility (social peace, spare time, etc). This type of behavior can then lead to free riding, each participant waiting until other recipients attempt to create value for the organization in order to use or appropriate it. Thus, these individuals fully benefit from the value generation phenomenon but they only bear part of the production costs¹³. Then the profit appropriation proceeds to a private benefit seeking related to non-pecuniary revenues for academics (i.e. scientific or academic reputation, royalties which could arise from the use of time freed up for publishing, etc.).

2.2 First steps in the implementation of process-oriented performance measurement system in French universities

The key concept is value. The concept of value generation represents one of the ground rules for organizational choice. At first sight, this concept is very simple to understand: assuring that the firm's assets and investment projects generate a greater return than the cost of capital. In such a process, the investment selection routine is the crucial point. Value generation depends on future liquidity flows, and the value generation process could be defined as the manifestation of the different decisional control functions. This manifestation leads to a generation of organizational rent¹⁴ (the compounded earnings over the opportunity wages), which is represented by the firm surplus created, once all production factors are paid. We can see here that cash flows are central for the strategic decisions of the firm (Caby and Hirigoyen 2001). This rather clear-cut frame lays the foundations of value production and permits to take into consideration the opportunity criteria for investment decisions, and finally for the survival of the organization. It has to be said, though, that its vision of organizations is a dehumanized one, as individuals are not given any consideration.

An alternative theory can be found in the integration of all residual claimants (Charreaux and Desbrières 1998), where the analysis is not centered on principals and agents only. Every resource provider is liable to take part in the decision process, through decision management or decision control. Organizational value created is then defined as the global surplus for both producers and consumers; in other words, the difference between generated organizational flows and consumed flows. Charreaux and Desbrières also propose different

¹³ These costs are shared between all participants of the production process.

¹⁴ Rent drives to classical concepts (e.g., Paretian rent, Ricardian rent) that we should develop in order to propose a clear definition. The economic rent represents revenues over invested capital cost.

ways for measuring stakeholder value, while being based on the definition of the value created resulting from traditional finance, they concentrate on the impact of the opportunity costs borne by each stakeholder of the value-generation process. Stakeholder value then corresponds to the difference between sales valued at the opportunity price and the sum of the opportunity costs for the various resource providers. It can be represented by the utility variations sum perceived by each stakeholder. The totality of the value thus created is not necessarily shared by the stakeholders. Following this, the value generation and value distribution process could be described as the decision function chain conducting to an organizational rent. According to the effectiveness principle, rent maximization leads to an optimal decision process.

In the light of the argument above, we can see the possibilities that this framework offers, in the study of organizations such as universities. Where standard approaches assign organizational surplus to shareholders only, Charreaux and Desbrières (1998) propose to include the various partners of the value-generation process by supposing they are all residual claimants. Value generation thus is not any more evaluated solely according to the generation of shareholder value but considering the entirety of the partners involved. The authors thus substitute the concept of stakeholder value for shareholder value, and establish the link between generation (and distribution) of value and governance¹⁵. They point out the first step of the investment process analysis in organizations (such as NPOs) that were not covered by standard analyses up until now, by proposing a measure of the value independent of its measurable nature¹⁶ (Zingales, 2000). The emergence of this analytic frame enables to clarify the investment process in universities, without taking any account of the restrictive framework imposing a purely financial (centered on shareholders) vision of the firm. At the same time, this approach rejects the assumption that decisions on value generation and on value distribution are to be regarded as separate. But the essential contribution of this enlarged vision lies in the inclusion of each partner's contribution in the generation of value.

¹⁵ Contrary to this, Shleifer and Vishny (1997) define corporate governance as a means for capital providers to safeguard their investment. Charreaux and Desbrières (1998) rather use a definition covering all mechanisms governing managers' behavior and their discretionary scope (Charreaux 1997a).

¹⁶ Indeed, for lack of a performance indicator, research in finance remained confined for a long time on the analysis of the relation shareholder-chief executive (principal-agent). Such a relation was quite simple to correlate with the market value of firms. *"However, it is not useless to recall that this measurement does not reflect the entire value created (i.e. the stakeholder value), only under extremely strict assumptions as to the operation of the various markets, which are far from being satisfied and which will never be, the generation of value passing by imperfections in the markets, in particular asymmetries of information. It thus appears necessary, even if the cost is increased in this way, to direct research towards other approaches (perhaps more qualitative) of the value created"* (Charreaux and Desbrières opus quoted, p.85, our own translation).

Thus, the influence they exert on organization strategy and the repartition of the value created becomes clear¹⁷.

Moreover, the residual value, or “slack”, is left with the discretion of the manager, enabling him to enjoy negotiation funds maximizing his own utility. In universities, because of the absence of surplus transferability, this slack makes it possible to constitute reserves or to buy social peace between the internal stakeholders. This residual value takes the form of non-pecuniary revenues¹⁸. These revenues or rents can then be utilized for private (or individual) use. They can assume various forms: for instance, reputation aspects, which represent a central factor in the utility function of the academics. We can see here the effects of a competitive market for academics, sanctioning deviating behaviors that induce substantial costs for the individuals (or institutions which employ them) who would not adopt usual behaviors (publications, major role in the running of the institution) (Brickley and al. 2000 p.161). On the other hand, behavior not seeking to appropriate “slack” can contribute to provide private incentives and to point out the individuals who adopt these behaviors both on the academic and labor market¹⁹.

We define university rent with the help of Koenig (1999, p.226), in turn based on Penrose’s (1952) and Porter’s (1986) works, as “the factor remuneration surplus over its opportunity cost”. It is a super-normal profit in terms of a normally competitive situation. Charreaux and Desbrières (1998) put forward a more complete measure of the rent, including organizational capital as a whole. They suggest, starting from their analysis of stakeholder value, a solution with revenue measurement as an organizational social optimum: total surplus left of the difference between the opportunity costs of the production factors and the products of the firm, evaluated at their opportunity price. Operationally, this addition to the

¹⁷ In this vision of the organization, it is the degree of effective participation by different stakeholders which is taken into account, separating the decision-making process into decision management functions and decisions control functions. Further, the value created could be shared between stakeholders who are most likely to be affected by a CEO’s behavior (Charreaux and Desbrières 1998).

¹⁸ The aim of an organization in general is expressed rather in terms of economic rent maximization than profit maximization. A firm that only maximizes its profit instead of its economic rent (by investments returns that yield less than the invested capital cost) is destroying value. Economic rent is closely related to organizational competitive advantage that is to be maximized. Those rents can be retained only by the acquisition and development of strategic resources.

¹⁹ These reputation aspects are generally strongly represented in the individual utility function when the revenues resulting from avoidance behaviors, or fraud, are weak; or when the probability of detecting the individual cheating is high. In the same way, we can observe the same when the relation between the stakeholders is repeated in the long term, where the outputs arising from the maintenance of a good reputation are high. Contrary to this, when these conditions do not converge, the reputation aspects are less of an incentive for the stakeholders.

value concept could be identified in various ways, at the same time in monetary terms and in human capital terms.

In the case of universities, the organizational rent results from the wealth increase, directly arising from the “sale” of education products and scientific services. It could be calculated at the opportunity price practiced on the higher education market. The opportunity price can be easily obtained for curricula for which there is competition (such as engineering degrees, or courses in management, with respect to competition from business and engineering schools from the private sector). The combined products of the universities’ function of production are the baseline of the rent distribution process in higher education organizations²⁰. In fact, cash inflows result from an increase of the student population, representing the real objective of the institution, in particular because of the quest for permanence and the impact of reputation. We can note a correlation between the size of the institution and its success and quality, or at least the diversity of its educational offer. This objective is pursued by agents seeking economies of scale in the execution of administrative and teaching tasks (Anthony and Govindarajan 2000). The revenues in question can be preserved only by the possession of strategic resources or core competences.

Conclusion

The conclusions arising from the discussion of the structure of university property rights encourages us to consider the question of the dialogue within the framework of the investment decisions and through the influence of property rights on incentives and control systems. The fiduciary constraint of the non-distribution of cash-flows influences to a great extent the contractual relations within universities, and consequently the structure even of an incentive system. The agents are supposed to seek to circumvent the control system in order to appropriate the organization surpluses in one way or another. The understanding of the contractual approaches suggested by the various theoretical currents that we discussed here

²⁰ This surplus is strongly correlated with the number of students (in professional education) because of the public financing calculus related to universities. The model allows analyzing each institution’s needs, comparing on the one hand its theoretical endowment to its effective one, and on the other hand education demand and supply. It further enables the establishment of those pedagogical needs that are not met by the university teachers presently employed by the university in question, and consequently, the theoretical demand for financial funds for running the institution. In the year 2000, French universities received FF4.7bn (85% of the budget covered by the respective law, chapter 36-11) for covering running costs calculated according to the model SAN REMO. Nevertheless, use of this model is not unproblematic, especially with respect to the time lag between exercises and funding. The theoretical financial support for running an institution is determined on the basis of student numbers two years prior to demand and not according to future projections. Development of demand thus is not taken into account. Other financing bodies would be likely to utilize other models for establishing their contribution.

leaves unresolved the question of the inciting character related to the decision of investment. Why do academics taking part in the investment decision (and consequently in the process of control²¹ from taking that decision) if they are not directly encouraged to? In fact, the question of the impact of property rights on the decision-making process in public organizations remains open. As we suggested in our first part, the incentives related to the function of the decision makers are of a non-pecuniary nature, and contribute to influence the decisions within the framework of the investment process in universities. The broader vision of the organization that we developed here enables us to identify the various mechanisms intervening in the co-operation process, in particular in terms of alignment of the various recipients' interests. The study of internal efficiency led us to study the distribution of the functions of control of the decision between the contracting members. For an interpretation of the residual claims in the universities closer to Hansmann's one²² than the one proposed by Fama and Jensen (1983b), it is essential to take into account within the framework of external efficiency the individuals who are not directly (by means of contract) involved. Indeed, those are likely to have an influence using institutional supports, the organizational decisions being able to affect their well-being in one way or another.

In such a context, performance measurement should be stakeholder-based, in order to involve the whole partner's utility function²³. Furthermore, it seems to be essential that measures do not lay on financial values, but integer non-financial measures (Antony and Young, 2002). The substitution of resources management by result management involves an agent's performance responsibility measurement. Evaluation becomes a central factor and is articulated with incentives system. The weakening of the property right system drives project bearers to maximize their utility instead of their incomes. In such a context, the understanding of individual strategies permits to understand constraints of management within universities, and to take into account the impact of stakeholders who take part in the value generation process. The major risk is to constraint the utility function of projects bearers by increasing

²¹ Via the management or the control of the decision.

²² Education, and particularly higher education, has peculiar characteristics much unlike other products or services. It represents services for which the customers pay at the same attention to the producers' characteristics, but also to the other customers' characteristics. Hansmann (1998) qualifies these services as associative (a student would thus not choose only one university compared to the offer of education, but also compared to his personal courses and with the social experiment that the university can offer to him). In fact, the residual credit, and the concept of value generation as well, cannot be understood for the various stakeholders (in particular for the consumers of the educational product), by merely comparing their monetary dimension.

²³ The integration of individuals' utility seems to be essential to the success of monitoring in peer managed organizations. One of the main difficulties is that managers are not professionals in universities. They are academics and are not evaluated on their abilities to drive organizations, notably because there is no incentive to manage. Then it seems difficult to draw formal limitations or restrictions.

their burden and their motivation. The result could be the limitation of the number of projects, and as well, the decreasing of university investments. The French public reform drives managers to give figures that had never been used before, and furthermore that had never been used to drive fund raising. Actually, the result management is a real revolution for public institutions. But it could also become a real trap because of organizational culture.

Bibliography

Alchian A. (1987), "Property rights", in Eatwell J., Milgate M., Newman P. éds, *The new Palgrave: a dictionary in economics*.

Alchian A., Demsetz H. (1972), "Production, Information Costs and Economic Organization", *American Economic Review*, vol. 62, n°5, p. 211-221.

Amann B. (1999), "La théorie des droits de propriété" in Kœnig G. éd., *De nouvelles théories pour gérer l'entreprise du XIX^{ème} siècle*, Économica, coll. Gestion, Paris.

Anthony R., V. Govindarajan (2000), *Management control systems*, 10th edition, McGraw Hill, 778 pages.

Anthony R., Young D. (2002), *Management control in nonprofit organizations*, 7th edition, McGraw Hill, 960 p.

Austin A.E. (1992), "Faculty cultures" in B. R. Clark & G. Neave (Eds.), *The Encyclopaedia of higher education*, Vol. 4, p. 1614-1623, Pergamon Press.

Brickley J., Smith C. Jr, Zimmerman J. (2000), *Managerial Economics and Organizational Architecture*, 2nd edition, 616 p.

Brown W. O. (1997), "University governance and academic tenure: a property rights explanation", *Journal of Institutional and Theoretical Economics*, vol. 153, n°3, pp. 441-461.

Caby J., Hirigoyen G. (2001), *La création de valeur de l'entreprise*, 2nd edition, Economica, coll. Connaissance de la gestion, Paris, 197 p.

Charreaux G. (1999), "Lecture et relectures de la théorie de l'agence", in Kœnig G. (éd.), *De nouvelles théories pour gérer l'entreprise du XXI^{ème} siècle*, Économica, coll. "Gestion", Paris.

Charreaux G. (1997), "Vers une théorie du gouvernement des entreprises" in G. Charreaux (éd.), *Le gouvernement des entreprises : Corporate governance, théories et faits*, Économica, pp.421-469.

Charreaux G., P. Desbrières (1998), "Gouvernance des entreprises : valeur partenariale contre valeur actionnariale", *Finance Contrôle Stratégie*, vol. 1, n° 2, p. 57-88.

Charreaux G. (1995), « Enseignement et recherche en gestion : Une analyse organisationnelle », in M. Albouy (éd.), *Mélanges en l'honneur du Pr. André Page*, Presses Universitaires de Grenoble.

Coleman J.S. (1973), "The university and society's new demand upon it", in Kaysen C. (éd.), *Contents and Context*, McGraw-Hill, New-York.

Clark B. R. (1987) "The Academic Life: Small Worlds, Different Worlds", *Carnegie Foundation for the Advancement of Teaching*, Princeton.

Clark, B. R. (1983) *The Higher Education System: Academic Organization in Cross-national Perspective*, The University of California Press.

Clotfelter C. T. (1999), "The familiar but curious economics of higher education: introduction to a symposium", *Journal of Economic Perspectives*, vol. 13 (1), p. 3-12.

De Weert E., Van Vucht Tijssen L. (1999), "Academic staff between threat and opportunity: Changing employment and conditions of service", in Jongbloed B., P. Maasen, G. Neave (éds), *From the eye of the storm: Higher education's changing institution*, Kluwer Academic Publishers, CHEPS, Dordrecht, p. 39-63.

Estrade M.A., Minni C. (1996), "La hausse du niveau de formation : la durée des études a doublé en cinquante ans", *INSEE Première*, n°488, septembre, 4 pages.

Fama E., Jensen M. (1983a), "Agency problems and residual claims", *Journal of Law and Economics*, vol.26, p.327-350.

Fama E., Jensen M. (1983b), "Separation of ownership and control", *Journal of Law and Economics*, vol.26, p.301-326.

Furubotn E., Pejovich S. (1974), *The economics of property rights*, Ballinger.

Grossman S., Hart O. (1986), "The Cost and Benefits of Ownership: a Theory of Vertical Integration", *Journal of Political Economy*, vol. 94, n°4, p. 691-719.

Hansmann H. (1996), *The ownership of enterprise*, The Belknap Press of Harvard University Press.

Hansmann H. (1980), "The rationale for exempting nonprofit organizations from corporate income taxation", *Yale Law Journal*, November, Vol. 91, p. 54-100.

Jensen M., Meckling W. (1994), "The nature of the man", *Journal of Applied Corporate Finance*, Summer, Vol.7, n°2, 38 p.

Kletz F., Pallez F. (2001), *L'offre de formation des universités : création de diplômes et stratégie d'établissements*, Centre de Gestion Scientifique, École des Mines, Paris, 59 p.

- Kœnig G. (1999), « Les ressources au principe de la stratégie », in Kœnig G. (éd.), *De nouvelles théories pour gérer l'entreprise du XXI^{ème} siècle*, Economica, coll. "Gestion", Paris, p.199-239.
- McCormick R., Meiners R. (1988), "University governance: a property rights perspective", *The Journal of Law and Economics*, vol. XXXI(2), p. 423-442.
- Paquet P. (2002), « Faut-il chercher à modéliser le fonctionnement de l'université française ? » in M. Nikitin (éd.), *Modéliser le fonctionnement des organisations*, L'Harmattan, pp. 141-161.
- Shleifer A., R.W. Vishny (1997), "A survey of corporate governance", *Journal of Finance*, vol. 52, n°2, pp. 737-783.
- Porter M. E. (1986), *L'avantage concurrentiel*, Paris, InterÉditions, 647 p.
- Williamson O. (1987), *The economic institutions of capitalism*, The Free Press, 450 p.
- Winston G.C. (1997), "Why Can't a College Be More Like A Firm?", *Change*, September-October, p. 32-38.
- Zingales L. (2000), "In Search of New Foundations", *Journal of Finance*, vol.55, n° 4, August, p.1623-1653.